FIG. 1

FIG. 2

BEGIN PROCESS

96 — SELECT THE FIRST DESIRED OUTCOME

98 — SELECT THE ELEMENTARY ACTIVITY (EA) THAT PRODUCES THE DESIRED OUTCOME

FROM 118

150 — SELECT THE NEXT DESIRED OUTCOME

28 — PLANNING SYSTEM DATA REPOSITORY

100 — IS THE EA IN PROJECT WBS ?

YES

FOUND ?

YES

NO

NO

114 — NODE PROCESSING TABLE (NPT)

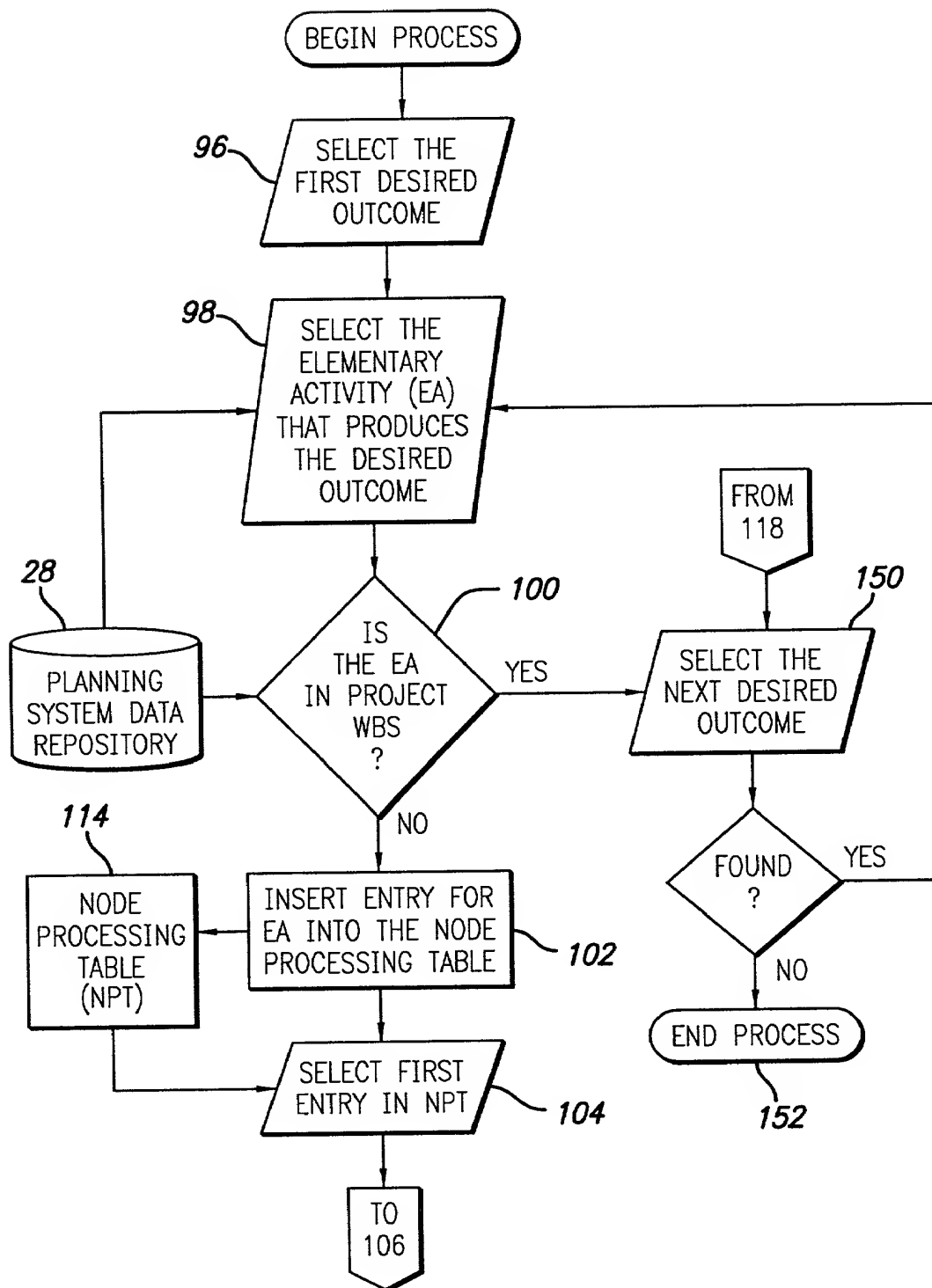INSERT ENTRY FOR EA INTO THE NODE PROCESSING TABLE — 102

END PROCESS

SELECT FIRST ENTRY IN NPT — 104

152

TO 106

FIG. 3a

FIG. 3b

FIG. 4a

BEGIN PROCESS

28

PLANNING SYSTEM DATA REPOSITORY

SELECT PROJECT ACTIVITY (PA) THAT PRODUCES OUTCOME — *160*

162 — INSERT ENTRY FOR PA INTO THE NODE PROCESSING TABLE

NODE PROCESSING TABLE (NPT) — *114*

164 — SELECT FIRST ENTRY IN NPT

TO: 166

FIG. 4b

FROM: 164 184

166 — DOES PA RESULT IN AN OUTCOME ?

YES

192 — IS IT THE OUTCOME BEING REMOVED ?

YES

NO

28

PLANNING SYSTEM DATA REPOSITORY

SELECT SUCCESSOR PA'S FOR CURRENT NODE 4.1

NODE PROCESSING TABLE (NPT)

DETERMINE IF ALL SUCCESSORS ARE MARKED FOR REMOVAL IN THE NPT

168

114

NO

TO: 170

194 — HAVE ALL SUCCESSORS BEEN MARKED FOR REMOVAL IN NPT ?

NO

NODE PROCESSING TABLE (NPT)

YES

190

114 — SET CURR. NODE'S REMOVAL IND. TO "Y"

PLANNING SYSTEM DATA REPOSITORY — 28

FROM:
190
192
194

DOES THE PA CORRESPOND TO A GROUPING EA ? — 170

NO

YES

HAS THE PA BEEN MARKED FOR REMOVAL ? — 172

YES

NO

SELECT THE PA'S UPSTREAM NODES — 174

FOR EACH UPSTREAM NODE:

PA NODE IN NPT ? — 178

NO

INSERT ENTRY FOR PA NODE IN NPT — 176

WHEN DONE

SET PA NODE'S PROCESSED IND. TO "Y" — 180

NODE PROCESSING TABLE (NPT) — 204

REMOVE EACH PA FROM THE PROJECT THAT IS MARKED FOR REMOVAL IN THE NPT 5 — 186

END PROCESS — 188

SELECT NEXT UNPROCESSED NODE — 182

UNPROCESSED NODE FOUND ? — 184

YES

NO

TO: 166

FIG. 4c

	o	Controlling WBS	Grouping Activity?	Outcome Produced	Predecessors
1		[−]Stage 1			
2		[−]Phase A			
3		[−]Task A1			
4		EA A1.1			
5		EA A1.2			4
6		EA A1.3		01	5
7		[−]Task A2			
8		EA A2.1			6
9		EA A2.2			6
10		EA A2.3			6
11		EA A2.4			10
12		EA A2.5		02	11
13		[−]Phase B			
14		[−]Task B1			
15		EA B1.1			0
16		EA B1.2			15
17		EA B1.3		03	16
18		[−]Stage 2			
19		[−]Phase C			
20		[−]Task C1			
21		EA C1.1	Y		12, 17
22		EA C1.2			21
23		EA C1.3		04	22

FIG. 5a

FIG. 5b

Project WBS and Work Flow

	Project WBS	Grouping Activity?	Outcome Produced	Predecessors	01	02	03	04	05	06	07	08	09	10	11	12
1	Stage 1															
2	Phase B															
3	Task B1															
4	EA B1.3															

Notice that all higher-level activities for EA B1.3 have also been inserted into the Project WBS/Work Flow as a result of the Activity Insertion, Positioning, and Content Linking process.

FIG. 5c

Project WBS/Work Flow

	Project WBS	Grouping Activity?	Outcome Produced	Predecessors	01	02	03	04	05	06	07	08	09	10	11	12
1	Stage 1															
2	Phase B															
3	Task B1															
4	EA B1.2		03													
5	EA B1.3			4												

FIG. 5d

Project WBS/Work Flow

	Project WBS	Grouping Activity?	Outcome Produced	Predecessors	01	02	03	04	05	06	07	08	09	10	11	12
1	Stage 1															
2	Phase B															
3	Task B1															
4	EA B1.1															
5	EA B1.2		03	4												
6	EA B1.3			5												

FIG. 5e

Project WBS/Work Flow

#	Project WBS	Grouping Activity?	Outcome Produced	Predecessors	01 : 02 : 03 : 04 : 05 : 06 : 07 : 08 : 09 : 10 : 11 : 12
1	⊟Stage 1				
2	⊟Phase A				
3	⊟Task A2				
4	EA A2.1				
5	⊟Phase B				
6	⊟Task B1				
7	EA B1.1			4	
8	EA B1.2			7	
9	EA B1.3		03	8	

FIG. 5f

Project WBS/Work Flow

#	Project WBS	Grouping Activity?	Outcome Produced	Predecessors	01 : 02 : 03 : 04 : 05 : 06 : 07 : 08 : 09 : 10 : 11 : 12
1	⊟Stage 1				
2	⊟Phase A				
3	⊟Task A1				
4	EA A1.3		01		
5	⊟Task A2				
6	EA A2.1			4	
7	⊟Phase B				
8	⊟Task B1				
9	EA B1.1			6	
10	EA B1.2			9	
11	EA B1.3		03	10	

FIG. 5g

Project WBS Work Flow

	Project WBS	Grouping Activity?	Outcome Produced	Predecessors	01 : 02 : 03 : 04 : 05 : 06 : 07 : 08 : 09 : 10 : 11 : 12
1	⊟Stage 1				
2	⊟Phase A				
3	⊟Task A1				
4	EA A1.2		01		
5	EA A1.3			4	
6	⊟Task A2				
7	EA A2.1			5	
8	⊟Phase B				
9	⊟Task B1				
10	EA B1.1			7	
11	EA B1.2		03	10	
12	EA B1.3			11	

FIG. 5h

Project WBS Work Flow

●	Project WBS	Grouping	Activity?	Outcome Produced	Predecessors	01 : 02 : 03 : 04 : 05 : 06 : 07 : 08 : 09 : 10 : 11 : 12
1	⊟Stage 1					
2	⊟Phase A					
3	⊟Task A1					
4	EA A1.1				4	
5	EA A1.2			01	5	
6	EA A1.3				6	
7	⊟Task A2					
8	EA A2.1				8	
9	⊟Phase B					
10	⊟Task B1				11	
11	EA B1.1				11	
12	EA B1.2			03	12	
13	EA B1.3					

FIG. 6a

Project WBS and Work Flow

#	Project WBS	Grouping Activity?	Outcome Produced	Predecessors
1	Stage 1			
2	Phase A			
3	Task A1			
4	EA A1.1			
5	EA A1.2			4
6	EA A1.3		01	5
7	Task A2			
8	EA A2.1			6
9	EA A2.2			6
10	EA A2.3			6
11	EA A2.4			10
12	EA A2.5		02	11
13	Phase B			
14	Task B1			
15	EA B1.1			8
16	EA B1.2			15
17	EA B1.3		03	16
18	Stage 2			
19	Phase C			
20	Task C1	Y		
21	EA C1.1			12, 17
22	EA C1.2			21
23	EA C1.3		04	22

Timeline columns: 01 : 02 : 03 : 04 : 05 : 06 : 07 : 08 : 09 : 10 : 11 : 12

FIG. 6b

Project WBS/Work Flow

	Project WBS	Grouping Activity?	Outcome Produced	Predecessors
1	☐Stage 1			
2	☐Phase A			
3	☐Task A1			
4	EA A1.1			4
5	EA A1.2		01	5
6	EA A1.3			6
7	☐Task A2			
8	EA A2.1			
9	☐Phase B			8
10	☐Task B1			11
11	EA B1.1			12
12	EA B1.2		03	
13	EA B1.3			
14	☐Stage 2			
15	☐Phase C			
16	☐Task C1			
17	EA C1.3			

FIG. 6c

Project WBS/Work Flow

●	Project WBS	Grouping Activity?	Outcome Produced	Predecessors
1	⊟Stage 1			
2	⊟Phase A			
3	⊟Task A1			
4	EA A1.1			
5	EA A1.2			4
6	EA A1.3		01	5
7	⊟Task A2			
8	EA A2.1			6
9	⊟Phase B			
10	⊟Task B1			
11	EA B1.1			8
12	EA B1.2			11
13	EA B1.3		03	12
14	⊟Stage 2			
15	⊟Phase C			
16	⊟Task C1			
17	EA C1.3			
18	EA C1.2		04	17

Timeline columns: 01 : 02 : 03 : 04 : 05 : 06 : 07 : 08 : 09 : 10 : 11 : 12

FIG. 6d

Project WBS/Work Flow

	Project WBS	Grouping Activity?	Outcome Produced	Predecessors	01	02	03	04	05	06	07	08	09	10	11	12
1	Stage 1															
2	Phase A															
3	Task A1															
4	EA A1.1															
5	EA A1.2			4												
6	EA A1.3		01	5												
7	Task A2			6												
8	EA A2.1															
9	Phase B															
10	Task B1															
11	EA B1.1			8												
12	EA B1.2			11												
13	EA B1.3		03	12												
14	Stage 2															
15	Phase C															
16	Task C1															
17	EA C1.1	Y		13												
18	EA C1.2			17												
19	EA C1.3		04	18												

FIG. 7a

Project WBS and Work Flow

	Project WBS	Grouping Activity?	Outcome Produced	Predecessors
1	⊟Stage 1			
2	⊟Phase A			
3	⊟Task A1			
4	EA A1.1			
5	EA A1.2			4
6	EA A1.3		01	5
7	⊟Task A2			
8	EA A2.1			6
9	EA A2.2			6
10	EA A2.3			6
11	EA A2.4			10
12	EA A2.5		02	11
13	⊟Phase B			
14	⊟Task B1			
15	EA B1.1			8
16	EA B1.2			15
17	EA B1.3		03	16
18	⊟Stage 2			
19	⊟Phase C			
20	⊟Task C1			
21	EA C1.1	Y		12, 17
22	EA C1.2			21
23	EA C1.3		04	22

Timeline columns: 01 : 02 : 03 : 04 : 05 : 06 : 07 : 08 : 09 : 10 : 11 : 12

FIG. 7b

Project WBS/Work Flow

#	Project WBS	Grouping Activity?	Outcome Produced	Predecessors
1	⊟ Stage 1			
2	⊟ Phase A			
3	⊟ Task A1			
4	EA A1.1			4
5	EA A1.2		01	5
6	EA A1.3			6
7	⊟ Task A2			6
8	EA A2.1			
9	EA A2.1			
10	⊟ Phase B			8
11	⊟ Task B1			
12	EA B1.1			11
13	EA B1.2			12
14	EA B1.3		03	
15	⊟ Stage 2			
16	⊟ Phase C			
17	⊟ Task C1			
18	EA C1.1	Y		14
19	EA C1.2		04	18
20	EA C1.3			19

Timeline columns: 01 : 02 : 03 : 04 : 05 : 06 : 07 : 08 : 09 : 10 : 11 : 12